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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,854	12/15/2005	Kentaro Tanikawa	2005_1936A	2072

52349 7590 11/16/2010

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EXAMINER	
DAZENSKI, MARC A	

ART UNIT	PAPER NUMBER
2481	

NOTIFICATION DATE	DELIVERY MODE
11/16/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/560,854	TANIKAWA ET AL.	
	Examiner	Art Unit	
	MARC DAZENSKI	2481	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 August 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,6-8 and 16-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1,3,6 and 16-27* is/are rejected.

7)☐ Claim(s) *7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12-15-2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8-12-10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to **claims 1, 7, 8 and 25-27** have been considered but are moot in view of the new ground(s) of rejection.

Regarding **claim 26**, the examiner notes that the claim discloses "extracting, from the specifying information memory, a piece of specifying information..." because this specifying information memory is disclosed as part of the video processing apparatus (see e.g. lines 3-5), the video processing apparatus specifying start frames of content, the examiner maintains that the process is adequately "tied to" another statutory category (such as a particular apparatus) and therefore no rejection under 35 USC 101 is necessary.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005 <http://www.uspto.gov/web/offices/com/sol/og/2005/week47/og200547.htm>), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.
>
> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and

> functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).
>
> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 1, 3, 6-8 and 16-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows.

Regarding **claims 1, 3, 6-8 and 16-25**, the examiner notes that the specification discloses: "Further, the present invention may be embodied as computer programs realizing the methods by a computer..." (see page 61, lines 7-10). As evidenced by the specification it appears that said claimed video processing apparatus (as well as the integrated circuit comprising various "modules" of claim 25), comprising computer programs realizing the methods (see page 61, lines 7-10), is capable of reading on software and as such does not fall into any statutory class of invention. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 6, 16-18 and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent 7,424,204), hereinafter referred to as Nakamura, in view of Sull et al (US Patent 7,548,565), hereinafter referred to as Sull.

Regarding **claim 1**, Nakamura discloses a video processing apparatus for specifying frames of content to be start frames of a plurality of viewing segments of the content, when segmenting the content into the plurality of viewing segments (column 2, lines 11-24: "The apparatus is provided with: an obtaining device which obtains identification information for identifying a type of the content information; a decision device which classifies the content information into a plurality of content sections by using optimized thresholds and which decides the partial video information to be extracted on the basis of the classified content section…"; see also figure 1 particularly Genre Information Obtaining Unit 103 and Decision Parameter Setting Unit 106), the video processing apparatus comprising:

a specifying information memory storing a plurality of pieces of specifying information, each piece of specifying information of the plurality of pieces of specifying information (i) corresponding to a different type of content (see column 17, lines 9-41: "…a genre information obtaining unit 103 for obtaining the genre information from the additional information; a storage unit 104 for storing audio/video information and the

audio feature amount and the genre information obtained in the audio/video information…a control unit 108 for deciding digest segments in the audio/video information stored on the basis of the audio feature amount extracted by the parameter suitable for the decision parameter and for controlling g the reproducing unit 107…") and (ii) including:

a first condition identifying a feature of frames of the content to be detected as candidates for presentation frames… an exclusion condition identifying a feature of frames of the content to be excluded from being the candidates for the presentation frames; a second condition identifying a feature of frames of the content to be detected as candidates for start frames; and a selection condition identifying a relationship between a presentation frame of the content and a frame of the content that is to be selected as a start frame (see column 19, lines 31-50: "…detecting a silent section and a noise section…while a silent section indicates a part where a scene is changed over or where program contents are switched…if the program is a news program, since a silent section or so-called 'interval (pause)' is taken at the time of switching news contents and the part that follows the 'pause' shows the next contents, the part will be a feature part of the video information.");

a content obtaining unit operable to obtain a content; an information obtaining unit operable to obtain type information identifying the type of the obtained content; an extracting unit operable to extract, from the specifying information memory, a piece of specifying information, of the plurality of pieces of specifying information, that corresponds to the type of the content identified by the obtained type information (see

column 16, lines 48-61: "…the summary reproducing apparatus 100 extracts a feature amount of audio/video information…selects the audio feature amount extracted by the parameter suitable for the set decision parameter concerned and decides…partial video information…to be extracted in summary reproduction on the bases of the selected audio feature amount."; see column 17, lines 9-41: "…a genre information obtaining unit 103 for obtaining the genre information from the additional information; a storage unit 104 for storing audio/video information and the audio feature amount and the genre information obtained in the audio/video information…a control unit 108 for deciding digest segments in the audio/video information stored on the basis of the audio feature amount extracted by the parameter suitable for the decision parameter and for controlling g the reproducing unit 107…"; see column 18, lines 22-25: "For example it is possible to obtain genre information related to the inputted audio/video information stored in an arbitrary place through a communications line such as the Internet."; see figure 1 particularly elements 102, 103, 104, 105 and 106); and,

a specifying unit operable, in accordance with the extracted piece of specifying information, to (i) specify the presentation frames of the content by detecting, from all frames of the content, frames of the content satisfying the first condition and by subsequently excluding, from the detected frames satisfying the first condition, frames satisfying the exclusion condition, and (ii) specify start frames of the content by detecting, from all frames of the content, frames of the content satisfying the second condition and by subsequently selecting, from the detected frames satisfying the second condition, frames satisfying the relationship identified by the selection condition with

respect to the specified presentation frames start frames present in the content, in accordance with the extracted piece of specifying information (see column 20, lines 1-26: "…an optimum threshold in the audio section are various according to a genre…the decision parameter setting unit 106 sets a decision parameter for the extraction on the basis of the inputted genre information, and the control unit 108 selects an optimum audio section for use in deciding digest segments from the extracted audio sections according to the parameter suitable for the set decision parameter…If it is a news program, the decision parameters setting unit 106 adopts sections having low sound levels for detecting silent sections and standard noise sections."; see column 21, lines 37-51: "…the importance of the digest segments decided according to the silent section is set by using weighing functions described below."; see column 22, lines 23-26: "In the digest segment decision process of the embodiment, the start time (STSSi), stop time (SESSi), and importance (IPSSi) of each digest segment are decided on the basis of a silent section and noise section."; see column 22, lines 32-34: "The digest segment candidates are then narrowed down to decide the minimum digest-segment time length..." wherein these start and stop times must also denote the start frames since each frame has an associated start time; and see also figure 4 particularly the Digest Segments a, b, and c created by Noise Section a(DNi), b(DNi) and c(DNi), as well as the Digest Segments a, b, and c created by Silent Sections a(DSi+1), b(DSi+1), and c(DSi+1).).

However, Nakamura fails to disclose each of the presentation frames for being displayed as a representative still image of a respective viewing segment of the plurality

of viewing segments. The examiner maintains it was well known to include the missing limitations, as taught by Sull.

In a similar field of endeavor, Sull discloses each of the presentation frames for being displayed as a representative still image of a respective viewing segment of the plurality of viewing segments (see column 13, lines 6-26: "…the real-time highlight generation scheme comprises a two-step process: coarse indexing and fine indexing…During the fine indexing step, the exact time interval; is obtained by any suitable technique for automatic shot detection and clustering, and a textual description is attached by using decoded closed-caption texts for the detected shots. The results from fine indexing automatically done at the main indexer 208 or 210 can be further refined by manual adjustment of time positions or additional annotations."; column 22, lines 36-67: "The key frame list view module 530 shows and manages all the key frames under the current category node. Each marked highlight is associated with a single representative image, called a 'key frame.' The key frame can be selected from any frames ranging over the interval of highlight...Similarly, the key frame list view module 530 may come up with the key frame image associated with the given highlight, and the highlight tree builder 528 automatically may locate the highlight at appropriate positions of a highlight hierarchy being generated."; see figure 5 particularly elements 522, 524, 526, 528, and 530 listed at column 21, lines 40-44.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Nakamura to include the

teachings of Sull for the purpose of visually conveying to a user a list of the most important segments of a video presentation, thereby enhancing user operability.

Regarding **claim 3**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above (see, e.g., the cited sections of Sull).

Regarding **claim 6**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above (wherein since the combination of Nakamura and Sull is capable of discerning between genres and the combination also discloses various automatic indexing operations such as shot detection, key frame extraction, and closed-caption text decoding as well as audio frame analysis, the examiner maintains that the system resulting from the combination of the two references covers all permutations of "different features," "exclusion conditions," and "first and second conditions").

Regarding **claim 16**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 1). Further, Nakamura discloses further comprising a playback unit operable to play back the content starting from a start frame of the content specified by the specifying unit (see column 28, lines 28-33 and lines 49-55: "…when the digest segments to be extracted is decided…the control unit 108 controls the reproduction unit 107 to start summary reproduction and controls the reproduction unit 107 to perform the summary reproduction on the basis of the decided

digest segments...In addition, since the partial video information to be extracted can be decided on the basis of the time-base positions of the plurality of the audio sections detected, the exciting part of the audio/video information and the part where the contents are switched can be extracted accurately as digest segments...").

Regarding **claim 17**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 16). Further, Sull discloses wherein the video processing apparatus further comprises: an index storing unit operable to store pairs of display times of each start frame and presentation frame specified for a respective viewing segment, of the plurality of viewing segments, by the specifying unit; a display unit operable to display a presentation frame specified for each viewing segment, of the plurality of viewing segments, by the specifying unit (see column 13, lines 6-26: "…the real-time highlight generation scheme comprises a two-step process: coarse indexing and fine indexing…During the fine indexing step, the exact time interval; is obtained by any suitable technique for automatic shot detection and clustering, and a textual description is attached by using decoded closed-caption texts for the detected shots. The results from fine indexing automatically done at the main indexer 208 or 210 can be further refined by manual adjustment of time positions or additional annotations."; column 22, lines 36-67: "The key frame list view module 530 shows and manages all the key frames under the current category node. Each marked highlight is associated with a single representative image, called a 'key frame.' The key frame can be selected from any frames ranging over the interval of highlight...Similarly, the key frame list view module 530 may come up with the key frame image associated with the given highlight,

and the highlight tree builder 528 automatically may locate the highlight at appropriate positions of a highlight hierarchy being generated."; see figure 5 particularly elements 522, 524, 526, 528, and 530 listed at column 21, lines 40-44; see also figure 20 which discloses a keyframe listing); and,

a user-selection unit operable to select, in accordance with a user selection, at least one of the displayed presentation frames and wherein the playback unit plays back the content starting from a start flame of a viewing segment, of the plurality of viewing segments, to which the user-selected presentation flame belongs (see column 22, lines 36-43: "The key frame list view module 530 shows and manages all the key frames under the current category node. Each marked highlight is associated with a single representative image, called a 'key frame.' The key frame can be selected from any frames ranging over the interval of highlight."; see column 28, lines 23-27: "The video player window 910 is used to play back ordinary video segments or highlighted video segments on demand, with VCR-like controls…").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Nakamura to include the teaching of Sull for the purpose of allowing a user greater flexibility in reproducing a selected video segment.

Regarding **claim 18**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 17). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 17 above (with particular emphasis on figure 20 showing a thumbnail list).

Regarding **claim 20**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above (wherein the previously cited sections of Nakamura read on the limitations of the claim).

Regarding **claim 21**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 20 above (wherein the previously cited sections of Nakamura in claim 1 read on the limitations of the claim, as do the limitations of claim 20).

Regarding **claim 22**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 1). Further, Nakamura discloses further comprising an updating unit operable to obtain a new version of a piece of specifying information, of the plurality of pieces of specifying information, that corresponds to a specific type of content, and operable to record the new version of the piece of specifying information to the specifying information memory (see column 17, lines 43-46: “The digital audio/video information sent from the communication line or received at te receive unit, not shown, or the digital audio/video information that has already been stored in the storage unit 104 are inputted into the demultiplexer.”; and see column 18, lines 20-25 and 40-44: “For example it is possible to obtain genre information related to the inputted audio/video information stored in an arbitrary place through a communications line such as the Internet...The storage unit 104 stores the digital audio/video information inputted, the audio feature amount of the audio information

extracted by the audio feature amount extraction unit 102, and the genre information obtaining unit 103.").

Regarding **claim 23,** the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 22). Further, Sull discloses, wherein the updating unit obtains the new version of the piece of specifying information when the video processing apparatus is connected, via a communication network, to a provider apparatus for providing specifying information, and judges that the new version of the piece of specifying information is available, and wherein the new version of the piece of specifying information is recorded to the specifying information memory by updating, to the new version of the piece of specifying information, a stored piece of specifying information, of the plurality of pieces of specifying information, that corresponds to the specific type (see at column 13, line 56 through column 14, line 19: "The resulting metadata about highlights from the real-time indexer is delivered to DVRs in a variety of 'devliery modes' including…a.)...b.)...c.)...d.)...e.)...f.)...For each delivery path, the metadata can be delivered to DVRs depending upon the delivery modes described above."; see also column 20, lines 5-24: "A template manager module 418 is to load appropriate highlight templates necessary for the stream to be indexed…The template manager 418 also enables the operator to edit the templates by providing a rich set of functions such as…'Update highlight theme.'").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Nakamura and Sull to include the teachings of Sull, for the purpose of ensuring a user's video indexing means works

correctly in the event of newly developing situations such as an overrun of a sporting event or change in programming schedule (see column 20, lines 31-40 of Sull).

Regarding **claim 24**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 23). Further the limitations of the claim are rejected in view of the explanation set forth in claim 23 above (wherein the previously cited sections of Sull discloses that the template is loaded before the start of indexing [see, e.g., column 20, lines 5-24]).

Regarding **claim 25**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 26**, the examiner maintains the claim is merely the corresponding method to the apparatus of claim 25 and is therefore rejected in view of the explanation set forth in regards to claim 25 above.

Regarding **claim 27**, the examiner maintains the claim is merely the corresponding program of the method of claim 26 and is therefore rejected in view of the explanation set forth in regards to claim 26 above.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent 7,424,204), hereinafter referred to as Nakamura, in view of Sull et al (US Patent 7,548,565), hereinafter referred to as Sull, in view of Wilf et al (US Patent 7,184,100), hereinafter referred to as Wilf.

Regarding **claim 19**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 17). However, the combination fails to disclose the

remaining limitations of the claim. The examiner maintains that it was well known to include the missing limitations, as taught by Wilf.

In a similar field of endeavor, Wilf discloses wherein the user-selection unit stores the at least one of the selected presentation frames as a reference image into the specifying information memory, and wherein the specifying unit specifies the presentation frames by detecting frames of the content similar to the reference image with respect to a location of a region in which a caption appears (see column 3, line 59 through column 4, line 16: "…there is provided a method of selecting key-frames from a video sequence, which includes overlayed frames having graphic overlays superimposed on live video content…masking out from the overlayed from the superimposed graphic overlays; testing for redundancy the live video content of neighboring overlayed frames and non-overlayed frames; and selecting as key-frames the overlayed frames and non-overlayed frames whose live video contents were tested to be non-redundant…a method of selecting key=frames from a video sequence, comprising: selecting one subset of keyframes which represent at least one feature of the video sequence…").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Nakamura and Sull to include the teachings of Wilf, for the purpose of reducing storage requirements by selecting only the best key-frames (see column 4, lines 21-40 of Wilf, with particular emphasis on lines 21-23).

Allowable Subject Matter

Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC DAZENSKI whose telephone number is (571) 270-5577. The examiner can normally be reached on M-F, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter-Anthony Pappas can be reached on (571) 272-7646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MARC DAZENSKI/
Examiner, Art Unit 2481

/Peter-Anthony Pappas/
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